Amendments to the Claims

This listing of claims will replace all prior versions, and listings of claims in the application.

1. (currently amended) A peptide selected from a group consisting of:

(a) $X_{01}X_{02}X_{03}$GluIleGlnLeuX_{04}His$X_{05}X_{06}X_{07}$LysX_{08} (SEQ ID NO: 1),

(b) fragments thereof, containing amino acids 1-9, 1-10, 1-11, 1-12 or 1-13;

(c) pharmaceutically acceptable salts thereof; and

(d) N- or C- derivatives thereof;

wherein:

X_{01} and X_{03} are each an α-helix stabilizing residue,

X_{02} is Trp, Bpa, Arg or Val,

X_{04} is [[is]] Met or Nle,

X_{05} is Gln, Deg or Asn,

X_{06} is Har or Leu,

X_{07} is α-helix stabilizing residue, Ala or Gly,

X_{08} is an α-helix stabilizing residue, Trp, Tyr or His; and

wherein said peptide binds selectively to the J domain of P1R.

2. (original) The peptide of claim 1, wherein said α-helix stabilizing residue is selected from the group consisting of Ac_5c, Ac_3c, Deg, Aib or the desamino form of Ac_5c, Ac_3c, Deg, or Aib.

3. (original) The peptide of claim 1, wherein said peptide is selected from:

(a) Ac_5cBpaAibGluIleGlnLeuMetHisGlnHarAlaLysTrp (SEQ ID NO:13);

(b) fragments thereof, containing amino acids 1-9, 1-10, 1-11, 1-12 or 1-13;

(c) pharmaceutically acceptable salts thereof; or

(d) N- or C- derivatives thereof.

4. (original) The peptide of claim 1, wherein said peptide is selected from:

(a) Ac_5cValAibGluIleGlnLeuMetHisGlnHarAlaLysTrpNH_2 (SEQ ID NO: 14);

(b) fragments thereof, containing amino acids 1-9, 1-10, 1-11, 1-12 or 1-13;

(c) pharmaceutically acceptable salts thereof; or

(d) N- or C- derivatives thereof.

5. (original) The peptide of claim 1, wherein said peptide is selected from:

(a) desamino $Ac_5cValAibGluIleGlnLeuMetHisGlnHarAlaLysTrpNH_2$ (SEQ ID NO: 15);

(b) fragments thereof, containing amino acids 1-9, 1-10, 1-11, 1-12 or 1-13;

(c) pharmaceutically acceptable salts thereof; or

(d) N- or C- derivatives thereof.

6. (original) The peptide of claim 1, wherein said peptide is selected from:

(a) desamino $AibValAibGluIleGlnLeuMetHisGlnHarAlaLysTrpNH_2$ (SEQ ID NO: 16);

(b) fragments thereof, containing amino acids 1-9, 1-10, 1-11, 1-12 or 1-13;

(c) pharmaceutically acceptable salts thereof; or

(d) N- or C- derivatives thereof.

7. (original) The peptide of claim 1, wherein said peptide is selected from:

(a) $Ac_5cTrpAibGluIleGlnLeuMetHisGlnHarAlaLysTrpNH_2$ (SEQ ID NO: 17);

(b) fragments thereof, containing amino acids 1-9, 1-10, 1-11, 1-12 or 1-13;

(c) pharmaceutically acceptable salts thereof; or

(d) N- or C- derivatives thereof.

8. (original) The peptide of claim 1, wherein said peptide selected from:

(a) Ac_5cBpaAibGluIleGlnLeuMetHisGlnHarAlaLysTrpNH$_2$ (SEQ ID NO: 18),

(b) fragments thereof, containing amino acids 1-9, 1-10, 1-11, 1-12 or 1-13;

(c) pharmaceutically acceptable salts thereof; or

(d) N- or C- derivatives thereof.

9. (original) The peptide of claim 1, wherein said peptide selected from:

(a) Ac_5cArgAibGluIleGlnLeuMetHisGlnHarAlaLysTrpNH$_2$ (SEQ ID NO: 19),

(b) fragments thereof, containing amino acids 1-9, 1-10, 1-11, 1-12 or 1-13;

(c) pharmaceutically acceptable salts thereof; or

(d) N- or C- derivatives thereof.

10. (original) The peptide of claim 1, wherein said peptide selected from:

(a) DegValDegGluIleGlnLeuMetHisGlnHarAlaLysTrpNH$_2$ (SEQ ID NO: 20);

(b) fragments thereof, containing amino acids 1-9, 1-10, 1-11, 1-12 or 1-13;

(c) pharmaceutically acceptable salts thereof; or

(d) N- or C- derivatives thereof.

11. (original) The peptide of claim 1, wherein said peptide selected from:

(a) DegTrpDegGluIleGlnLeuMetHisGlnHarAlaLysTrpNH$_2$ (SEQ ID NO: 21);

(b) fragments thereof, containing amino acids 1-9, 1-10, 1-11, 1-12 or 1-13;

(c) pharmaceutically acceptable salts thereof; or

(d) N- or C- derivatives thereof.

12. (original) The peptide of claim 1, wherein said peptide selected from:

(a) DegBpaDegGluIleGlnLeuMetHisGlnHarAlaLysTrpNH$_2$ (SEQ ID NO: 22);

(b) fragments thereof, containing amino acids 1-9, 1-10, 1-11, 1-12 or 1-13;

(c) pharmaceutically acceptable salts thereof; or

(d) N- or C- derivatives thereof.

13. (original) The peptide of claim 1, wherein said peptide selected from:

(a) Ac$_5$cTrpAibGluIleGlnLeuNleHisGlnHarAlaLysTyrNH$_2$ (SEQ ID NO: 23);

(b) fragments thereof, containing amino acids 1-9, 1-10, 1-11, 1-12 or 1-13;

(c) pharmaceutically acceptable salts thereof; or

(d) N- or C- derivatives thereof.

14. (original) The peptide of claim 1, wherein said peptide selected from:

(a) Ac_5cBpaAibGluIleGlnLeuNleHisGlnHarAlaLysTyrNH_2 (SEQ ID NO: 24);

(b) fragments thereof, containing amino acids 1-9, 1-10, 1-11, 1-12 or 1-13;

(c) pharmaceutically acceptable salts thereof; or

(d) N- or C- derivatives thereof.

15. (original) A peptide selected from a group consisting of:

(a) X_{01}BpaX_{02}GluIleGlnLeu X_{03}His$X_{04}X_{05}X_{06}$LysX_{07}LeuAla SerValX_{08}ArgX_{09} (SEQ ID NO: 6);

(b) fragments thereof, containing amino acids 1-20, 1-19, 1-18, 1-17, 1-16 or 1-15;

(c) pharmaceutically acceptable salts thereof; and

(d) N- or C- derivatives thereof;

wherein

X_{01} and X_{02} are α-helix stabilizing residues,

X_{02} is Aib, Gln, Deg or Asn,

X_{03} is Met or Nle,

X_{04} is Har or Leu,

X_{05} is an α-helix stabilizing residue, Ala or Gly,

X_{06} is an α-helix stabilizing residue (e.g. Aib) or Lys,

X_{07} is an α-helix stabilizing residue, Trp or His,

X_{08} is Arg or Glu and X_{09} is Tyr or Met; and

wherein said peptide binds selectively to the J domain of P1R.

16. (original) The peptide of claim 15, said peptide selected from:

(a) DegBpaDegGluIleGlnLeuNleHisGlnHarAlaLysTrpLeuAla SerValArgArgTyrNH_2 (SEQ ID NO: 25);

(b) fragments thereof, containing amino acids 1-11, 1-12 or 1-13;

(c) pharmaceutically acceptable salts thereof; or

(d) N- or C- derivatives thereof.

17. (currently amended) The peptide of claim 1~~ or 15~~, wherein said peptide is labeled.

18. (original) The peptide of claim 17, wherein said peptide is labeled with a fluorescent label.

19. (original) The peptide of claim 17, wherein said peptide is labeled with a chemiluminescent label.

20. (original) The peptide of claim 17, wherein said peptide is labeled with a bioluminescent label.

21. (original) The peptide of claim 17, wherein said peptide is labeled with a radioactive label.

22. (original) The peptide of claim 21, wherein said peptide is labeled with ^{125}I.

23. (original) The peptide of claim 21, wherein said peptide is labeled with ^{99m}Tc.

24. (currently amended) A competition binding assay to identify a PTH receptor ligand, which comprises contacting said receptor with [[a]] the labeled peptide of claim 17 and a candidate receptor ligand, and measuring the label bound to the receptor.

25. (currently amended) A competition binding assay to analyze a PTH receptor ligand, which comprises contacting said receptor, or fragments or derivatives thereof, with [[a]] the labeled peptide of claim 17 and a candidate receptor ligand, and measuring the label bound to the receptor.

26. (currently amended) A pharmaceutical composition comprising the peptide of claim 1 ~~or 15~~, and a pharmaceutically acceptable carrier.

27. (currently amended) A method for treating mammalian conditions characterized by increased activity or production of PTH or PTHrP, said method comprising administering to a subject in need thereof an effective inhibitory amount of a peptide of claim 1 ~~or 15~~.

28. (currently amended) A method for treating mammalian conditions characterized by increased activity or production of PTH or PTHrP, said method comprising administering to a subject in need thereof an effective inhibitory amount of a composition comprising a peptide of claim 1 ~~or 15~~ and a pharmaceutically acceptable carrier.

29. (currently amended) The method of claim ~~26 or~~ 27, wherein said condition to be treated is hypercalcemia.

30. (original) The method of claim 28, wherein said condition to be treated is malignant hypercalcemia.

31. (currently amended) The method of claim ~~26 or~~ 27, wherein said effective amount of said peptide for increasing bone mass is from about 0.01 μg/kg/day to about 1.0 μg/kg/day.

32. (currently amended) The method of claim ~~26 or~~ 27, wherein the method of administration is parenteral.

33. (currently amended) The method of claim ~~26 or~~ 27, wherein the method of administration is subcutaneous.

34. (currently amended) The method of claim ~~26 or~~ 27, wherein the method of administration is nasal insufflation.

35. (currently amended) A method of making the peptide of claim 1 ~~or 15~~, wherein said peptide is synthesized by solid phase synthesis.

36. (currently amended) The method of making the peptide of claim 1 ~~or 15~~, wherein said peptide is protected by FMOC.